Software Release Notice

System: AGS/SGS **Release:** NASA 2.33
Date: 11 Aug 99

Modification Description:

AGS/SGS Upgrade

The following changes are planned for AGS/SGS software. This release contains test programs to diagnosis reported problems. Modifications that have been completed since the NASA2.32 release.
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1. On the tape log screen, the option to close screen with the '-' was removed because this would close the SCC software.
2. Corrected bug in scheduling supports characterized by the following actions. When using the scheduler, choose a satellite and push the "Pass Gen" button. All orbits for that satellite are displayed. Choose an orbit, push the "Copy pass" button, and then push the "Cancel" button to not schedule the support. If you now choose a different orbit and push the "copy pass", you'll get the same AOS and LOS time as for the first orbit.
3. Added diagnostics to characterize problem when error button is red after opening an S-Band receiver window. This is very repeatable at Wallops when code is started and operator hits receiver bar. After acknowledged, then it does not repeat. This problem was not noticed at Poker. Added diagnostics to identify the source of the problem and possibly fix it.
4. Corrected where X-Band Track Marconi would only configure to the frequency in the default and not to the frequency specified from the configuration screen.
5. Corrected bug that S-Band LHC Data receiver intermittently shows ALARM although all lower displays indicate GREEN.
6. Allow support for up to 100 Satellites and add graceful degradation if more than 100 Satellites are tried.
7. Corrected the track analysis problem that showed low elevation droop in the elevation delta. Changed orbit predictor from SA predictor to SGP4.
8. Enhanced software for the Marconi Local Oscillator generator so that it provides a selection for remote R.F. reference frequency.
9. Added track time bias per Satellite.
10. Removed shortened prepass feature that would not allow uplink to work for passes scheduled close to current time or by restarting the code close to or in the middle of a pass.
11. Enhanced the control of NTP. When time on top level is in red, the time is not synchronized with NTP. When it is in green, time is synchronized with NTP. Changing the time from the SCC will stop NTP. Restart NTP by pressing the start NTP time button.
12. Enhanced scheduler to allow orbit zero.
13. Corrected scheduler bug that improperly changes the recorder start time to the beginning of scheduled pass time.
14. Improved I/O handler to recognize and recover from 'Broken pipe'.
15. Added enhancement for the LandSat BER test. The BER test will check for sync and if no sync, it will automatically invert the data polarity on the Test Modulator.

16. Added the capability to enter a fractional bit rate for the LandSat BER clock.
17. Corrected S-Band pass support strip chart displaying numbers that were off by a power of 10.
18. Added DPS button on the recorder screens.
19. Corrected the fraction of a second in the status log file.
20. Improved coherent acquisition for uplink as done for McMurdo.
21. Added code to clear RF Frequency field on receiver GUI upon entering screen so that invalid value will not be displayed if the unit is off line.
22. Ephemeris Ingest problem- Fixed bug that would cause an infinite loop in the ephemeris task as a result of particular vectors. This occurred at Poker in the beginning of July and caused a missed LS7 pass.

Files Affected:

The files that were developed and/or utilized as part of NASA 2.33 are listed in Attachment 1: NASA 2.33 FILES.

Hardware Requirements:

N/A

Validation Procedures:

McMurdo2.3 will be validated through continued daily testing at NASA/McMurodo/10m for scheduled satellite passes. In addition, the following actions can be performed to validate some upgrades included in this release:

1. Verify that option to close the tape log screen with the '-' was removed.
2. Verify that when using the scheduler, choose a satellite and push the "Pass Gen" button. All orbits for that satellite are displayed. Choose an orbit, push the "Copy pass" button, and then push the "Cancel" button to not schedule the support. If you now choose a different orbit and push the "copy pass", you get the different AOS and LOS time from the first orbit.
3. Verify that the X-Band Track Marconi will configure to a frequency other than the default frequency.
4. View a track analysis and see that the low elevation droop in the elevation delta is gone.
5. Verify that a selection for remote R.F. reference frequency for the Marconi Local Oscillator generator works.
6. Enter in different time bias for each satellite and observe the time bias change at prepass.
7. Schedule a pass just before the pass is to begin and verify that all the configurations are loaded.
8. Stop NTP and verify the time on top level is highlighted red. Start NTP and verify the time on the top level is highlighted in green.
9. Reschedule a pass with recorders scheduled just before the pass is to begin, verify the recorder start times did not changes to the new pass start time.
10. Verify that the S-Band LHC Data receiver no longer intermittently shows ALARM when there is not an alarm.
11. Verify that a fractional bit rate for the LandSat BER clock can be used.

12. Verify the S-Band pass support strip chart is displaying correct numbers.
13. Verify the DPS button on the recorder screens.

Known Bugs or Limitaions:

Some open DRs may not be resolved in this release due to equipment constraints.

Installation Procedure:

To install this release, create a rel2.33 directory in the /home/aaas/releases directory. Copy Install and nasa2.33.tar.Z in to this directory. From /home/aaas/releases/rel2.33, run ./Install nasa2.33.

The installation script will create new bin and etc directories and modify the bin and etc links to look at the new release directories. The old etc directory will be copied to the new etc directory. New executables will be placed in the new bin directory. The following new default files will replace the old default files: sbandSynth.defaults, xbandCh1Synth.defaults, xbandCh2Synth.defaults, xbandCh3Synth.defaults, xbandCh4Synth.defaults, xbandTestSynth.defaults, xbandTrackSynth.defaults. Fixconfig will be run on the configuration files to fix possible corruptions related to the Marconi Track Synthesizer. NTP scripts will be copied in to the root directory.

The .ntpSyncInfo and .start_ntp files in the root directory (cd /) need to be modified for the correct time server IP address.

In the /home/aaas directory, edit the .cshrc file. Edit the station environment variable to identify the station: setenv Station "AGS 11m" or setenv Station "SGS 11m".

Documentation Affected:

N/A

Comments:

Pam Beard will support this software installation from S-A and her number is (770) 903-2164.

Approval:

The software modifications described in this release notice has been validated and accepted.

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NASA WGS Project Manager Date

SOFTWARE RELEASED:

The software modifications described in this release notice have been completed and released to ground station operations.

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System Manager Date

_____ _____

NASA Program Monitor Date

Attachment 1
NASA 2.33 Files

The bin Directory:

AntennaControlStartup
Nasa
NasaStart
PostPass
Start
Stop
authent
configud
control
dpsHndlr
dpsSupp
dst410
errhandler
eup
executive
getNtpSyncInfo
ioh
pedcont
postPassShell
rci_client
rci_rmt
rci_server
reccon
recsch
resetLANGateway
resetLANGateway2
rmqs
schedmon
snyHndlr
start.awk
start_ntp
status_l
stop.awk
stop_ntp
sup
tapelog
terminal
testexec
time_code_handler
track
uactask
winPrint

The etc Directory:

The etc/hpib directory:

N/A

The etc/config directory:
fixconfig

The etc/defaults directory:

sbandSynth.defaults
xbandCh1Synth.defaults
xbandCh2Synth.defaults
xbandCh3Synth.defaults
xbandCh4Synth.defaults
xbandTestSynth.defaults
xbandTrackSynth.defaults

The / directory:
.ntpSyncInfo
.start_ntp
.stop_ntp